

Claims - Clean Copy

Claim 1 (Canceled).

Claim 2 (Currently amended). A plant containing one or more of the following novel restriction fragments identified by one or more molecular marker-enzyme combinations thereof ;

BNL5.62, *Eco*RI, 10.3 kb; np197, *Hind*III, 3.9 kb; UMC157, *Eco*RI, 6.5 kb and 3.3 kb; UMC157, *Hind*III, 5.5 kb; UMC157, *Bam*HI, 14.0 kb, 8.5 kb and 4.5 kb; UMC11, *Bam*HI, 7.0 kb; CSU3, *Bam*HI, 10.0 kb and 7.6 kb; UMC67, *Eco*RI, 19.2 kb; UMC67, *Bam*HI 13.4 kb, 11.0 kb and 1.6 kb; CSU92, *Bam*HI, 13.3 kb and 7.5 kb; asg62, *Bam*HI, 12.7 kb, 9.7 kb and 6.6 kb; UMC58, *Hind*III, 3.3 kb; CSU164, *Eco*RI, 9.0 kb and 7.0 kb; UMC128, *Hind*III, 6.0 kb; UMC107, *Eco*RI, 7.5.0 kb, 6.3 kb and 6.1 kb; UMC140, *Eco*RI, 4.9 kb; UMC140, *Hind*III, 6.5 kb; adh1, *Hind*III, 9.4 kb; adh1, *Bam*HI, 9.4 kb; UMC161, *Hind*III, 3.3 kb; BNL8.29, *Hind*III, 9.3 kb and 8.3 kb; UMC53, *Eco*RI, 9.4 kb; UMC53, *Eco*RV, 8.4 kb, 3.8 kb and 3.0 kb; UMC6, *Eco*RI, 3.8 kb; UMC6, *Hind*III 9.4 kb; UMC6, *Bam*HI, 13.2 kb, 12.7 kb, and 7.0 kb; UMC61, *Hind*III, 3.4 and 2.8 kb *agrr167*, *Bam*HI, 5.7 kb, 4.5 kb and 4.0 kb; UMC34, *Eco*RI, 7.5 kb and 5.4 kb; UMC34, *Hind*III, 8.8 kb, 6.5 kb and 5.8 kb; UMC34, *Bam*HI, 9.4 kb; UMC135, *Hind*III, 11.6 kb and 10.8 kb; UMC131, *Eco*RI, 10.6 kb, 5.8 kb and 4.3 kb; UMC55, *Eco*RI, 3.9 kb; UMC55, *Hind*III, 4.3 kb; UMC5, *Eco*RI, 5.4 kb; UMC5, *Hind*III, 6.5 kb; UMC49, *Bam*HI, 8.2 kb; UMC36, *Bam*HI, 4.2 kb; UMC32, *Eco*RI, 5.3 kb; UMC32, *Hind*III 6.7 kb, 6.0 kb, and 2.8 kb; asg24, *Hind*III, 7.2 kb and 6.4 kb; UMC121, *Eco*RI, 3.7 kb and 3.2 kb; BNL8.35, *Hind*III, 9.9 kb and 8.7 kb; UMC50, *Bam*HI, 7.8 kb, 6.8 kb, 5.8 kb and 3.8 kb; UMC42, *Hind*III, 10.4 kb, 9.2 kb, 8.9 kb, 7.9 kb, 7.6 kb, and 3.7 kb; np1247, *Eco*RI, 8.0 kb; np1247, *Hind*III 3.0 kb; UMC10, *Hind*III, 3.0 kb; UMC10, *Eco*RI, 6.5 kb and 5.5 kb; UMC102, *Eco*RI, 2.7 kb; BNL6.06, *Eco*RI, 6.8 kb; CSU240, *Eco*RI, 10.6 kb, 4.5 kb and 3.3 kb; BNL5.37, *Hind*III, 10.3 kb, 5.8 kb and 3.5 kb; np1296, *Eco*RI, 7.9 kb; UMC3, *Eco*RI 2.5 kb and 2.0 kb; np1212, *Hind*III, 4.3 kb; np1212, *Bam*HI, 5.4 kb; UMC39, *Eco*RI, 12.2 kb, 9.2 kb, 7.8 kb and 7.1 kb; *phi10080*, *Bam*HI, 9.7 kb; UMC63, *Hind*III, 9.5 kb and 4.3 kb; CSU303, *Eco*RI, 10.0 kb; UMC96, *Hind*III, 11.8 kb, 6.4 kb and 5.5 kb; UMC96, *Bam*HI, 7.5 kb; UMC2, *Eco*RI, 11.8 kb, 10.4 kb, 8.0 kb and 3.9 kb; CSU25,

HindIII, 5.2 kb, 4.5 and 4.2 kb; agr115, EcoRI, 8.0 kb and 5.4 kb; agr115, BamHI, 5.4 kb and 3.5 kb; phi20725, EcoRI, 10.3 kb, 9.7 kb and 7.2 kb; phi20725, HindIII, 1.5 kb; UMC31, EcoRI, 5.8 kb and 2.0 kb; UMC31, BamHI 6.5 kb; UMC55, EcoRI, 3.9 kb; UMC55, HindIII, 4.3 kb; CSU235, HindIII, 6.8 kb and 3.0 kb; CSU585, HindIII, 8.3 kb and 6.1 kb; BNL5.46, HindIII, 13.7 kb, 10.5 kb, 9.7 kb and 5.1 kb; agr321, BamHI, 5.5 kb; agr89, HindIII, 7.1 kb; npi386, HindIII, 12.6 kb, 9.3 kb and 8.2 kb; UMC42, HindIII, 19.2 kb, 10.3 kb 8.9 kb, 7.6 kb, 3.7 kb and 3.0 kb; tda62, BamHI, 5.5 kb, 5.2 kb, 4.8 kb and 4.2 kb; BNL5.71, EcoRV, 11.3 kb, 6.8 kb, and 5.7 kb; UMC156, HindIII, 3.0 kb; UMC66, EcoRI, 10.5 kb; UMC66, BamHI, 3.7 kb and 2.4 kb; UMC19, BamHI, 12.3 kb; UMC104, HindIII, 12.4 kb, 11.6 kb and 7.5 kb; UMC104, BamHI, 9.4 kb; UMC133, HindIII, 10.6 kb, 9.9 kb, 9.2 kb and 7.7 kb; UMC52, BamHI, 8.7 kb, 6.9 kb, 3.8 kb, 3.0 kb and 2.0 kb; BNL15.07, HindIII, 2.9 kb and 2.7 kb; npi409, EcoRI, 9.4 kb; npi409, HindIII, 10.4 kb, 9.0 kb and 3.9 kb; UMC147, HindIII, 16.3 kb, 3.8 kb and 2.4 kb; asg73, EcoRI, 3.8 kb; UMC90, HindIII, 7.7 kb, 6.5 kb, 2.8 kb and 1.6 kb; UMC90, BamHI, 9.0 kb; UMC72, 8.5 kb; UMC27, HindIII, 8.3 kb and 4.5 kb; UMC27, BamHI, 6.5 kb; UMC43, BamHI, 9.7 kb, 7.3 kb and 5.7 kb; tda37, BamHI, 9.0 kb, 8.0 kb and 6.4 kb; UMC43, BamHI, 9.7 kb, 7.3 kb and 5.7 kb; UMC40, BamHI, 7.2 kb, 4.7 kb and 4.3 kb; BNL7.71, HindIII, 10.6 kb; BNL5.71, BamHI, 11.3 kb, 6.8 kb and 5.7 kb; tda62, BamHI, 6.5 kb and 5.5 kb; UMC68, HindIII, 6.0 kb; UMC104, HindIII, 12.4 kb, 11.6 kb and 7.5 kb; UMC104, BamHI, 9.4 kb; phi10017, BamHI, 15.1 kb and 9.5 kb; tda50, BamHI, 8.5 kb; npi373, HindIII, 6.5 kb, 5.6 kb, 5.1 kb and 3.0 kb; tda204, BamHI, 4.0 kb; npi393, EcoRI, 12.1 kb, 8.5 kb, 7.0 kb and 5.6 kb; UMC65, HindIII, 2.9 kb; UMC46, EcoRI, 6.5 kb and 5.6 kb; asg7, HindIII, 6.3 kb; UMC28, HindIII, 15.8 kb and 11.9 kb; UMC28, BamHI, 9.9 kb, 7.6 kb and 6.6 kb; UMC134, HindIII, 7.5 kb and 4.7 kb; asg8, HindIII, 10.8 kb, 8.7 kb and 8.4 kb; phi20581, HindIII, 4.2 kb; O2, EcoRI, 9.4 kb; asg34, HindIII, 4.5 kb; BNL15.40, HindIII, 5.8 kb; UMC116, EcoRI, 9.5 kb; UMC110, BamHI, 10.6 kb, 4.9 kb and 3.9 kb; BNL8.32, HindIII, 8.9 kb, 7.4 kb and 7.1 kb; BNL14.07, EcoRI, 6.4 kb; UMC80, HindIII, 10.7 kb, 8.2 kb and 2.4 kb; BNL16.06, EcoRI, 6.8 kb and 1.9 kb; BNL16.06, HindIII, 5.7 kb, 3.0 kb and 1.6 kb; phi20020, HindIII, 7.8 kb, 6.6 kb and 5.1 kb; npi114, HindIII, 10.0 kb, 8.8 kb and 6.3 kb; BNL9.11, HindIII, 3.4 kb; UMC103, HindIII, 6.9 kb; UMC124, HindIII, 8.0 and 7.0; UMC124, BamHI, 6.6 kb, 2.6 kb and 1.6 kb; UMC120, HindIII, 3.2 kb, 2.3 kb and 1.4 kb; UMC89, EcoRI, 7.3 kb; UMC89, HindIII, 7.3 kb;

UMC89, BamHI, 9.5 kb, 6.0 kb, 5.2 kb and 4.5 kb; UMC89, MspI, 6.7 kb and 5.8 kb; BNL12.30, EcoRI, 3.5 kb; UMC48, HindIII, 6.2 kb, 5.3 kb, 4.7 kb, 4.2 kb and 3.5 kb; UMC53, EcoRI, 3.8 kb and 3.0 kb; UMC53, EcoRV, 8.4 kb; np1268, BamHI, 6.4 kb; UMC7, BamHI, 4.2 kb; UMC3, EcoRI, 3.5 kb and 2.0 kb; phi10005, EcoRI, 15.0 kb and 1.6 kb; UMC113, EcoRI, 5.9 kb and 5.4 kb; UMC113, BamHI, 12.8 kb, 11.8 kb and 10.5 kb; UMC192, HindIII, 11.4 kb and 6.4 kb; wx (waxy), HindIII, 21.0 kb; UMC105, EcoRI, 3.9 kb; CSU147, HindIII 5.9 kb; BNL5.10, HindIII, 6.1 kb and 4.4 kb; UMC114, BamHI, 12.6 kb, 11.5 kb, 10.0 kb, 8.8 kb, 7.5 kb and 6.5 kb; UMC95, EcoRI, 5.6 kb; UMC95, HindIII, 7.7 kb, 7.3 kb, 4.8 kb, 4.5 kb 4.1 kb and 1.7 kb; UMC95, BamHI, 15.0 kb and 9.0 kb; asg44, EcoRI, 5.3 kb; CSU61, EcoRI, 8.1 kb and 4.8 kb; BNL7.57, BamHI, 11.6 kb and 5.9 kb; CSU54, EcoRI, 14.7 kb and 12.6 kb; phi20075, EcoRI, 7.1 kb; np1285, EcoRI, 12.4 kb, 9.4 kb and 6.0 kb; KSU5, EcoRI, 9.8 kb, 7.6 kb, 6.1 kb, 3.8 kb and 3.5 kb; UMC130, EcoRI, 13.5 kb and 7.0 kb; UMC130, HindIII, 4.8 kb and 3.2 kb; UMC130, BamHI, 3.2 kb; UMC64, HindIII, 3.3 kb; UMC152, HindIII, 12.4 kb, 7.1 kb and 5.6 kb; phi06005, EcoRI, 12.8 kb; UMC163, HindIII, 7.0 kb, 4.8 kb; 3.0 kb; 2.6 kb and 2.3 kb; UMC44, HindIII, 9.8 kb, 8.7 kb, 7.2 kb, 5.5 kb and 4.0 kb; BNL10.13, HindIII, 10.8 kb; np1306, HindIII, 7.0 kb; pmt1, HindIII, 2.3 kb; pmt2, HindIII, 2.8 kb and 2.1 kb; pmt5, HindIII, 12.3 kb, 8.1 kb, 3.6 kb, 3.2 kb and 2.5 kb; tda48, HindIII, 8.2 kb; tda53, HindIII, 3.8 kb and 2.2 kb; tda168, EcoRI, 3.6 kb; tda16, HindIII, 4.3 kb; and tda17, HindIII, 7.0 kb; tda250, BamHI, 4.0 kb, produced from a procedure comprising the steps of:

- (a) crossing a *Tripsacum* female parent with a teosinte male parent to produce (*Tripsacum* X teosinte) hybrid seed or a teosinte female parent with a *Tripsacum* pollen donor to produce (teosinte X *Tripsacum*) hybrid seed; then
- (b) growing a (*Tripsacum* X teosinte) or (teosinte X *Tripsacum*) hybrid plant from said seed to maturity; then
- (c) harvesting the seed produced in (c).

Claim 3 (Twice amended). Seed from the plant that contains one or more restriction fragments set forth in claim 2.

Claim 4 (Twice amended). All hybrid plants, derivatives, variants, mutants, modifications, and cellular and molecular components from a plant according to claim 2 or claim 3.

Claim 5 (Twice amended). Pollen produced by a plant according to claim 2 or claim 4.

Claim 6 (Twice amended). A tissue culture, all derivatives, variants, mutants, modifications, and cellular and molecular components from a plant according to claim 4.

Claim 7 (Canceled).

Claim 8 (Currently amended). A plant wherein said plant is a maize plant that contains one or more restriction fragments described in claim 2 thereof, and is produced from a procedure comprising the steps of:

- (a) crossing a *Tripsacum* female parent with a teosinte male parent to produce (*Tripsacum* X teosinte) hybrid seed or a teosinte female parent with a *Tripsacum* pollen donor to produce (teosinte X *Tripsacum*) hybrid seed; then
- (b) growing a (*Tripsacum* X teosinte) or (teosinte X *Tripsacum*) hybrid plant from said seed to maturity; then
- (c) crossing said seed from (*Tripsacum* X teosinte) or (teosinte X *Tripsacum*) hybrid plant with maize to produce seed;
- (d) harvesting the seed produced in (c).

Claim 9 (Twice amended). Maize seed from a plant according to claim 8.

Claim 10 (Twice amended). Maize plants, all derivatives, subsequent generations, variants, mutants, modifications, and cellular and molecular components from the seed according to claim 9.

Claim 11 (Twice amended). Pollen from a plant according to claim 8 or claim 10.

Claim 12 (Twice amended). Tissue cultures, all derivatives, variants, mutants, modifications, and cellular and molecular components from a plant according to claim 8 or claim 10.

Claim 13 (Twice amended). A plant according to claim 8 or claim 10, in which said plant has root aerenchyma.

Claim 14 (Twice amended). A plant according to claim 8 or claim 10, in which said plant is corn rootworm tolerant.

Claim 15 (Twice amended). A plant according to claim 8 or claim 10, in which said plant is drought tolerant.

Claim 16 (Twice amended). A plant according to claim 8 or claim 10, in which said plant has improved grain quality.

Claim 17 (Twice amended). A plant according to claim 8 or claim 10, in which said plant is tolerant to acid soils.

Claim 18 (New). A plant according to claim 8 or claim 10 in which said plant is resistant to aflatoxin.

Claim 19 (New). A plant according to claim 8 or claim 10 in which said plant is resistant to corn borer.

Claim 20 (New). A plant according to claim 8 or 10, further comprising a novel band identified by the SSR probe bnlgl805 thereof,

in which the roots of said plant have aerenchyma.

Claim 21 (New). A plant according to claim 8 or 10, further comprising one or more novel bands identified by SSR probes dupSSR23, phi123, bnlg2235 or bnlg1714 thereof, in which said plant has tolerance to corn rootworm.

Claim 22 (New). A plant according to claim 8 or claim 10, in which said plant has tolerance to low nitrogen.